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ABSTRACT

The effect of group composition on risk taking was investigated by having various 3-man groups discuss caution-oriented items. Results indicated: (1) only one of nine group types exhibited a significant shift to caution; (2) except for tne homogeneous groups, in which there were no shifts, significant shifts in individual decisions did occur, at least for some of the members, in all of the group composition types; (3) compromising effects, in which group members shifted toward each other, were evident; (4) low risk takers changed their decisions least often, highs next, and moderates most often. Findings were related to previous research in the area. (Author)

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Individual Shifts and the Group Shift Phenomenon

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Most theories attempt to explain the group shift phenomenon by speculating what happens to individual decisions as a function of group participation. Yet, surprisingly little research has been directed toward investigating individual shifts as a function of various parameters. The most noteable exception is the research done by Wallach and Mabli (1970), Vidmar and Burdeny (1971), and Haley and Rule (1971). Wallach and Mabli (1970) found that low risk takers shifted in the risky direction regardless of whether they constituted a minority or majority of the group members, while high risk takers under these conditions did not shift. They concluded that group discussion serves to inform conservatives that a more risky position than theirs is available. These authors used only 2-group types, 2 highs, 1 low (2H1L) and 2 lows, 1 high (2L1H), so that the influence of moderate risk takers wa_ not demonstrated. They also used only risk items. Will their results obtain for caution items?

Haley and Rule (1971), investigating the effects of moderate majorities on extremists' decisions, found that moderate risk takers shifted to greater risk when they were members of a group containing a high risk taker, but not to greater caution when members of a group containing a low risk taker. Indeed low risk takers shifted to greater risk under these circumstances. The authors concluded that low risk takers were less stable in their viewpoints than high risk takers. One wonders about the generality of these conclusions. Only risk items were used. Would the results and conclusions have been reversed had caution items been used?

Vidmar and Burdeny (1971), using 2, 3, 4, and 5-man groups discussing both risky and caution items, found that regardless of item content, or group composition, the most risky individuals tended to shift in the

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cautious direction and the most cautious individuals tended to shift in the risky direction. It is not clear from these data however, that the shifts are statistically significant. Also, they did not manipulate directly the group composition factor and, therefore, did not investigate all possible combinations of group composition. A thorough investigation into this variable would seem to require such procedure. The present study was designed to explore the effect of group composition on individual and group shifts for groups discussing caution items.

Method

Subjects

120 male subjects were selected from a pool of 377 volunteer introductory psychology students at the University of Saskatchewan, Saskatoon. Subjects were categorized on the basis of the I1 scores on the Choice Dilemma Questionnaire (CDQ) containing five caution-oriented items (Vidmar and Burdeny, 1971). A riskiness score for each individual was obtained by summing the preferred odds over the five caution items. A high score indicated caution. Subjects were divided into upper, middle and lower thirds of the distribution as follows: highs (H), range 13-31, mean 27.5; moderates (M), range 32-38, mean 35.8; and lows (L), range 39-50, mean 42.5. There were 29 highs, 48 moderates and 44 low risk takers.

Various combinations of 3-man groups with the following compositions were formed: 1H1M1L (n=3), 3M (n=2), 3L (n=2), 2H1L (n=2), 2H1M (n=4), 2M1L (n=7), 2M1H (n=6), 2L1H (n=4), and 2L1M (n=9).

Procedure

The usual format for these studies was followed (Wallach & Kogan, 1965). Subjects responded to the CDQ three times: (1) in isolation prior to group discussion (I1); (2) as a group (G); and (3) as individuals

again following the group discussion (I2). I1 scores were obtained with subjects together in a large classroom. This was followed by random assignment to groups, instructions to redo the questions reaching a group consensus, and finally respond to the CDQ again in isolation.

Results

Total Scores summed over five caution items were analyzed. To determine the effect of group composition on the group-shift phenomenon a 10 x 3 repeated-measures, unequal n, analysis of variance (ANOVA) was performed (Winer, 1971). Both group composition and stage main effects were highly significant. Although the group composition x stage interaction was non-significant, a Newman-Keuls (N-K) analysis using the subjects x trials error from the ANOVA was done. Following Winer's (1971, p. 442) logical grouping strategy, separate N-K analyses were done on each group type. Only 1 of the 9 groups, 1H1M1L, exhibited a significant group shift; the group, 1H1M1L, shifted to greater caution.

To determine the effect of group composition on individual changes in decision 3 separate 6 x 3 repeated-measures, unequal n analysis of variance were performed for high, moderate and low risk takers. There were 6^2 levels of group composition, 1 homogeneous group and 5 heterogeneous groups, and 3 stages, I1, G, and I2. In these analyses 5 of the 6 main effects[3] and all of the interactions were significant. Separate N-K analyses on the stage means showed that high and moderate risk takers shifted to caution, while lows shifted to risk. The shifts were maintained for the low and moderate risk takers, but not for the highs who returned to their I1 decisions.

The group composition x stage interactions were most revealing. The means are contained in Tables 1, 2, and 3. High risk takers (Table 1)

did not change their decisions significantly following group discussion when they constituted a majority against one moderate risk taker (2H1M), or one low (2H1L). They did change their decisions in the conservative direction when they constituted a minority against two low risk takers (1H2L), or two moderates (2M1H), or one moderate and one low (1H1M1L). Moreover, in all cases they adhered to the group decisions when they responded to the questionnaire again in isolation following the group discussion, suggesting that they were not submitting momentarily to conformity pressures, but rather had undergone a genuine attitude change.

The decisions of the moderate risk takers also shifted significantly following group discussion as the function of group composition (Table 2). Although there were no changes in the uniform moderate group (3M) and the group type, 2M1H, moderates in the most heterogeneous group (1H1M1L) as well as in the lesser heterogeneous groups, 2M1L, 2L1M, shifted their decisions significantly in the cautious direction. On the other hand, moderates in the group 2H1M shifted to risk. Again, all of the 12 decisions were not different from the group decision, suggesting that these are not just transitory conformity pressure changes.

Low risk takers changed the least as a function of group composition (Table 3). Not only did they not change in the homogeneous group (3L), but neither did they change in 3 of the 5 heterogeneous groups. Changes occurred in the risk direction, for the groups 1H1M1L and 2H1L. The shift was maintained in the latter but not the former group type. There were no changes in the group types, 3L, 2M1L, 2L1H and 2L1M.

In summary, it is interesting that compromising forces appear to be operating in the group type 1H1M1L, since highs shifted to caution, while lows and moderates shifted to risk. Attitude changes occurred for lows in the group type 2H1L, for moderates in 1H1M1L, 2M1L, 2L1M, and 2H1M, and for

highs in the group types, 2L1H and 2M1H. Conformity occurred for lows in the group type 1H1M1L.

Discussion

Data clearly show that there are significant individual shifts in decision within groups which are not reflected in an overall group shift. Only 1 of the 9 groups exhibited a significant shift to caution, (1H1M1L). Yet, with the exception of the homogeneous groups, in which there were no shifts, significant shifts in individual decisions did occur, at least for some of the members, in all of the group composition types. Thus, individual decisions are changed as a result of group discussion, but not in the manner described by most theorists. They may move in unison, as for example, moderates and highs in the group type 1H1M1L leading to a significant group shift; or they may move in opposition, as for example, lows and moderates in the group type 2L1M, leading to no group shift. This has important theoretical implications, which are not within the scope of the present paper.

Low risk takers in the present study appeared to be most resistant to change. They shifted their decisions toward greater risk only when they constituted a minority against a group containing at least one high risk taker (1H1M1L, 2H1L), and even then only when highs also agreed, in the one instance (1H1M1L) to change, after which they shifted back to a position not different from the original one. Low risk takers in the present study behaved similar to highs in the Wallach-Mabli (1970) study, showing a strong tendency not to change. On the other hand, the high risk takers in the present study behaved similar to lows in the former study, changing their decisions in 3 of 5 instances.

Similarly, the pattern of the present results fits that of Haley and Rule's (1971) study. The high risk takers in the present study behaved

much like Haley and Rule's (1971) low risk takers, being much less stable in their decisions, while the low risk takers in the present study were similar to the high risk takers in the former study, in that they exhibited more stability in their decisions. It appears that persons holding an opinion consonant with item orientation are less likely to alter them under group influence than their counterparts at the other end of the risk continuum.

The present results are consistent with those reported by Vidmar and Burdeny (1971) if we take into account the magnitude of the shifts by extremists for risk and caution items. Upon closer examination of this study it becomes evident that persons holding a position opposite to that of item orientation shifted $2\frac{1}{2}$ - 6 times the amount of those at the other end of the risk continuum who shift very little -- probably not significantly.

In summary, group composition and item orientation appear to be important factors in determining group shifts, individual shifts and stability of shifts. Individual shifts, not evident in group shifts, reflect conformity, compromises and attitude change.

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Footnotes

[1] - Now with Cominco Ltd., Trail, B.C. This is an extension of an M.A. thesis presented to the University of Saskatchewan, Saskatoon, by Terry Burdeny.

[2] - There was only 1 homogeneous high risk group, therefore it was eliminated from the analysis.

[3] - The group composition main effect for low risk-takers was non-significant.

TABLE 1

Group Composition X Stage Interaction Means for High Risk Takers

Group Composition	N	Pre Discussion (I_1)[a]	Pre Discussion (G)	Pre Discussion (I_2)	N-K
1H1M1L	3	29.33a	41.67b	35.67c	S
2H1L	2	30.50	35.00	34.25	N-S
2H1M	4	27.37	29.75	28.75	N-S
2L1H	4	29.00d	40.25e	37.75e	S
2M1H	6	27.17f	32.50g	31.67g	S

A separate Newman-Keusl analysis, using the Anova Ss X Stages mean square, was performed on each of the group types (Winer, 1971, p. 442). Means with the same subscripts are not significantly different from one another at, at least, the 5% level.

[a] None of the I_1 means were significantly different from one another by Newman-Keuls test.

A high score indicates greater caution,

TABLE 2

Group Composition X Stage Interaction Means For Moderate Risk Takers

Group Composition	N	Pre Discussion (I_1)[a]	Group Discussion (G)	Post Discussion (I_2)	N-K
1H1M1L	3	37.67a	41.67ab	42.33b	S
3M	2	34.50	36.00	37.17	N-S
2H1M	4	36.75c	29.75d	31.75d	S
2M1L	7	35.21e	40.86f	40.43f	S
2L1M	9	36.11g	40.89h	40.22h	S
2M1H	6	35.50	32.50	34.25	N-S

A separate Newman-Keuls analysis, using the Anova Ss X Stages mean square, was performed on each of the group types (Winer, 1971, p. 442). Means with the same subscripts are not significantly different from one another at, at least, the 5% level.

[a]None of the I_1 means were significantly different from one another by Newman-Keuls Test.

A high score indicates greater caution.

TABLE 3

Group Composition X Stage Interaction Means For Low Risk Takers

Group Composition	N	Pre Discussion (I_1)[a]	Group Discussion (G)	Post Discussion (I_2)	N-K
1H1M1L	3	46.00a	41.67b	44.00ab	S
3L	2	43.67	45.00	44.67	N-S
2H1L	2	41.50c	35.00d	38.50e	S
2M1L	7	42.71	40.86	41.57	N-S
2L1H	4	42.62	40.25	41.75	N-S
2L1M	9	41.22	40.89	41.56	N-S

A separate Newman-Keuls analysis, using the Anova Ss X Stages mean square, was performed on each of the group types (Winer, 1971, p. 442). Means with the same subscripts are not significantly different from one another, at, at least, the 5% level.

[a]None of the I_1 means were significantly different from one another by Newman-Keu's Test.

A high score indicates greater caution.